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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,165	11/26/2001	Jeffrey R. Thomas	ITWO:0019	9370

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EXAMINER

LEUNG, PHILIP H

ART UNIT PAPER NUMBER

3742

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,165

Applicant(s)

THOMAS ET AL.

Examiner

Philip H Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 and 37-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-27 and 37-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 5-9, 11, 12, 16, 21-27, 37, 39, 40, 42 and 46-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Rohrbaugh et al (US 5,770,838) (newly cited).

Rohrbaugh shows an induction heating system, comprising: a power source operable to produce an alternating current to inductively heat a workpiece 52, 54 and 56, a controller 302 operable to control operation of the power source, wherein the controller is operable to receive programming instructions to selectively increase and decrease workpiece temperature to achieve different temperature profiles which is the same as “at a desired rate of change” as claimed in order to automatically control operation of the power source to provide inductive heat to the workpiece to o selectively increase and decrease the workpiece and a temperature feedback device (see col. 4, lines 42-51) operable to provide the controller with an electrical signal representative of the workpiece temperature (see all Figures and col. 6, line 21 – col. 8, line 31). In regard to claims 2, 12, 40 and 42, the programmable controller inherently performed as a recorder for the temperature data (see Figures 6-10 and col. 8, lines 32-64). In regard to claims 5-8, 21-27, 37 and 46, it also shows the use a thermal model 308 and input device 306 for inputting control data to the programmable controller 302 for controlling the heating to achieve a specific temperature profile by increasing or decreasing power input (see Figure 3 and col. 4, lines 18-41).

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 4, 10, 13-15, 17-19 and 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rohrbaugh et al (US 5,770,838), in view of Jancosek et al (US 4,845,332).

Rohrbaugh shows "an induction heating system, comprising: a power source operable to produce an alternating current to inductively heat a workpiece 52, 54 and 56, a controller 302 operable to control operation of the power source, wherein the controller is operable to receive programming instructions to selectively increase and decrease workpiece temperature and a temperature feedback device (see col. 4, lines 42-51) operable to provide the controller with an electrical signal representative of the workpiece temperature. It does not show the use of PID temperature controllers (claim 10). Jancosek shows that it is well known in an induction heating system having induction heaters 34-44 to use a plurality of temperature sensors, such as pyrometers 201, 203 and 205 with PID controllers 218, 219 and 220 in a programmable microprocessor 234 for controlling the heating temperature profile according to the feedback temperature information (see Figure 1A and col. 10, line 27 – col. 11, line 7). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rohrbaugh to use any well known temperature control devices including PID controller for more precise heating control according to the heating temperature feedback data, in view of the teaching of Jancosek. In regard to claims 3 and 4, the exact temperature obviously depends on

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the type of heat treatment process as the use of induction heating for stress relief of metal workpieces is well known in the art. Moreover, the programmable controllers of these references are "operable" to do all intended control steps/functions as claimed. In regard to claims 13-15, 17-19, 44 and 45, the use of disc drives, visual display and interface modules is well known in the art of computerized controlling devices.

5. Claims 20, 38 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rohrbaugh et al (US 5,770,838), in view of Fox et al (US 5,266,764).

Rohrbaugh shows "an induction heating system, comprising: a power source operable to produce an alternating current to inductively heat a workpiece 52, 54 and 56, a controller 302 operable to control operation of the power source, wherein the controller is operable to receive programming instructions to selectively increase and decrease workpiece temperature and a temperature feedback device (see col. 4, lines 42-51) operable to provide the controller with an electrical signal representative of the workpiece temperature. It does not explicitly show that the controller is portable. However, it teaches that the programmable controller 302 may be used with a wireless transmission system (see col. 4, lines 24-32), which implies that the controller may be portable. Anyway, Fox shows that it is well known in an induction heating system having induction heater 12 to use a portable unit 20 including a temperature controller and a power supply (see Figures 1 and 3 and col. 3, line 48 – col. 4, line 60). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rohrbaugh to use a portable control unit so that it can be adapted for various heating systems, in view of the teaching of Fox.

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6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Edamura (US 4,780,588) is cited to show a portable controller for selecting and controlling an oven with a plurality of programmable heating recipes.

7. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip H Leung whose telephone number is (703) 308-1710.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (703) 305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Philip H Leung
Primary Examiner
Art Unit 3742

P.Leung/pl
8-06-2004